AMENDMENTS TO THE CLAIMS

In the Claims:

1. (Currently Amended) A method of producing an angiospermous apomictic plant that exhibits an increased genetic stability for apomixis compared to an apomictic parent plant from which the apomictic plant is produced, the method comprising:

(a) producing a facultatively apomictic parent plant by:

selecting sexual plants from an angiospermous plant species, genus, or family, wherein the sexual plants are selected from the Poaceae or Asteraceae family;

cytoembryologically identifying sexual plants from the selected plants having divergent reproductive schedules of ovule development such that initiation of embryo sac formation in one sexual plant occurs at about the same time as or before meiosis in the other sexual plant relative to the developmental maturity of the nongametophytic ovule and ovary tissues selected from the group consisting of: nucellus, integument, pericarp, hypanthium, and pistil wall;

hybridizing the identified sexual plants having divergent reproductive schedules of ovule development;

recovering hybrid seed therefrom;

sowing the hybrid seed; and

selecting a hybrid plant that is apomictic to be the apomictic parent plant; and

(b) doubling the chromosome number of the apomictic parent plant, thereby producing an angiospermous apomictic plant with increased genetic stability for apomixis.

2. (Original) The method of claim 1, wherein the step of doubling the chromosome number comprises treating the parent plant with a spindle inhibitor.

3. (Original) The method of claim 2, wherein the spindle inhibitor comprises colchicine.

4. (Original) The method of claim 1, wherein the step of doubling the chromosome number comprises culturing the parent plant in tissue culture.

5. (Original) The method of claim 1, wherein the step of doubling the chromosome number is accomplished by B_{III} hybridization.

6. (Original) The method of claim 1, wherein the parent plant exhibits incomplete meiotic chromosome pairing such that meiotic chromosome pairing among the chromosomes of the resulting chromosome-doubled apomictic plant occurs within rather than among duplicated pairs of chromosomes.

7. (Original) The method of claim 1, wherein the parent plant is either an interspecific hybrid, so that the corresponding chromosome doubled plant is an allopolyploid, or an interracial hybrid, so that the corresponding chromosome doubled plant is a segmental allopolyploid.

8. (Original) The method of claim 1, further comprising the step of genetically modifying the apomictic plant to produce an apomictic plant in which female meiosis aborts.

9. (Original) The method of claim 8, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant containing a meiotic mutant.

10. (Original) The method of claim 8, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant of a different ploidy level so that the apomictic plant produced is of an odd ploidy level.

11-12. (Cancelled)

13. (Currently Amended) A method of producing an angiospermous apomictic plant that exhibits an increased genetic stability for apomixis compared to an apomictic parent plant from which the apomictic plant is produced, the method comprising:

(a) producing a facultatively apomictic parent plant by:

selecting sexual plants from an angiospermous plant species, genus, or family, wherein the sexual plants are selected from the Poaceae or Asteraceae family;

cytoembryologically identifying sexual plants from the selected plants having divergent reproductive schedules of ovule development such that initiation of embryo sac formation in one sexual plant occurs at about the same time as or before meiosis in the other sexual plant relative to the developmental maturity of the nongametophytic ovule and ovary tissues selected from the group consisting of nucellus, integument, pericarp, hypanthium, and pistil wall;

hybridizing the identified sexual plants having divergent reproductive schedules of ovule development;

recovering hybrid seed therefrom;

sowing the hybrid seed; and

selecting a hybrid plant that is apomictic to be the apomictic parent plant; and

(b) genetically modifying the apomictic parent plant so that female meiosis is aborted, thereby producing an angiospermous apomictic plant with increased genetic stability for apomixis.

14. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by hybridization with a plant containing a meiotic mutant.

15. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by hybridization with a plant of a different ploidy level so that the apomictic plant produced is of an odd ploidy level.

16. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by B_{III} hybridization.

17. (Original) The method of claim 13, wherein the step of genetically modifying the parent plant is accomplished by transforming the parent plant with a promoter/gene construct that inhibits female meiosis.

18. (Original) The method of claim 13, further comprising the step of doubling the chromosome number of the apomictic parent plant.

19-28. (Cancelled)

29. (Currently Amended) A method of producing a genetically stabilized angiospermous apomictic plant, the method comprising:

cytoembryologically identifying two sexual plants from an angiospermous plant species, genus, or family having divergent reproductive schedules of ovule development to be parent plants, such that initiation of embryo sac formation in one parent plant occurs at about the same time as or before meiosis in the other parent plant relative to the developmental maturity of the nongametophytic ovule and ovary tissues selected from the group consisting of: nucellus, integument, pericarp, hypanthium, and pistil wall, wherein the sexual plants are selected from the Poaceae or Asteraceae family;

doubling the chromosome number of at least one of the sexual parent plants; ~~and~~

hybridizing the two sexual parent plants to produce hybrid seed therefrom;

sowing the hybrid seed; and

selecting a hybrid plant that is an angiospermous apomictic plant with increased genetic stability for apomixis compared to the sexual parent plants.

30. (Original) The method of claim 29, wherein the step of doubling the chromosome number comprises treating the selected sexual plant with a spindle inhibitor.

31. (Original) The method of claim 30, wherein the spindle inhibitor comprises colchicine.

32. (Original) The method of claim 29, wherein the step of doubling the chromosome number comprises culturing the selected sexual plant in tissue culture.

33. (Original) The method of claim 29, wherein the step of doubling the chromosome number is accomplished by B_{III} hybridization.

34. (Original) The method of claim 29, further comprising the step of genetically modifying the apomictic plant to produce an apomictic plant in which female meiosis aborts.

35. (Original) The method of claim 34, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant containing a meiotic mutant.

36. (Original) The method of claim 34, wherein the step of genetically modifying the apomictic plant is accomplished by hybridization with a plant of a different ploidy level so that the apomictic plant produced is of an odd ploidy level.

37-38. (Cancelled)

39. (New) The method of claim 1, wherein the plant from the Poaceae or Asteraceae family is selected from the group consisting of: Antennaria, Sorghum or Tripsacum.